What is claimed is:

1. A multilayer ceramic capacitor comprising:

an effective dielectric material section made by stacking dielectric ceramic layers, that include a main crystal phase comprising at least $BaTiO_3$ as main component and a secondary phase comprising mainly SiO_2 which forms grain boundary and triple point boundary, and internal electrode layers alternately one on another;

external cover dielectric layers that are formed on the upper and lower surfaces in the stacking direction of said effective dielectric material section and include a main crystal phase and a secondary phase comprising at least the same components as those of said dielectric ceramic layer; and

external electrodes that are electrically connected with the internal electrode layers led out onto both end faces of said effective dielectric material section which includes said external cover dielectric layers, wherein

said external cover dielectric layers comprises ceramics having lower sinterability than the dielectric ceramic layer of said effective dielectric material section.

2. The multilayer ceramic capacitor according to claim 1, wherein the mean grain size of said main crystal phase in said external cover dielectric layer is larger than the mean grain size of said main crystal phase in said dielectric ceramic layer, and the amount of said secondary phase in said external cover dielectric layers is more than the amount of said secondary phase in the dielectric ceramic layer.

3. The multilayer ceramic capacitor according to claim 2, wherein a ratio D2/D1 of the mean grain size of the main crystal phase (D2) in the external cover dielectric layer to the

mean grain size of the main crystal phase (D1) in the dielectric ceramic layer is in a range from 1.1 to 1.5.

4. The multilayer ceramic capacitor according to claim 2, wherein a ratio M2/M1 of the amount of the secondary phase (M2) in the external cover dielectric layer to the amount of the secondary phase (M1) in the dielectric ceramic layer is in a range from 1.01 to 1.5.

5. The multilayer ceramic capacitor according to claim 1, wherein a volume proportion of the secondary phase to the main crystal phase in said external cover dielectric layer is lower than the volume proportion of the secondary phase to the main crystal phase in said dielectric ceramic layer.

6. The multilayer ceramic capacitor according to claim 5, wherein a volume proportion of the secondary phase to the main crystal phase in said external cover dielectric layer is 60 to 95% of the volume proportion of the secondary phase to the main crystal phase in said dielectric ceramic layer.

7. The multilayer ceramic capacitor according to claim 1, wherein the thickness (t1) of the effective dielectric material section and the thickness (t2) of the external cover dielectric layer satisfy the relation of $t2/t1 \geqq 0.05$.

8. The multilayer ceramic capacitor according to claim 1, wherein the thickness of the dielectric ceramic layer is 7 μm or less and 100 or more dielectric ceramic layers are stacked.

9. The multilayer ceramic capacitor according to claim 1, wherein the mean grain size of the main crystal phase that constitutes the dielectric ceramic layers and the external cover dielectric layers is 0.5 μm or smaller.

10. A process for preparing the multilayer ceramic capacitor comprising the steps of:

forming a laminate comprising an effective dielectric material section made by interposing internal electrode pattern between a plurality of first dielectric material green sheets that are stacked one on another including a dielectric material powder and a glass powder, and external cover layers that are placed on the upper and lower surfaces of said effective dielectric material section and are constituted from second dielectric material green sheets including the same dielectric material powder and glass powder as those of said first dielectric material green sheets; and

cutting and firing said laminate, wherein

the dielectric material powder and the glass powder are included in the green sheets in such proportions as the sinterability of the second dielectric material green sheet is lower than the sinterability of the first dielectric material green sheet.

11. The process for preparing the multilayer ceramic capacitor according to claim 10, wherein the mean particle size of the dielectric material powder included in the second dielectric material green sheet is made larger than the mean particle size of the dielectric material powder included in the first dielectric material green sheet, and the amount of said glass powder included in the second dielectric material green sheet is made more than the amount of said glass powder included in the first dielectric material green sheet.

12. The process for preparing the multilayer ceramic capacitor according to claim 11,

wherein a ratio DG2/DG1 of the mean particle size of the dielectric material powder (DG2) included in the second dielectric material green sheet to the mean particle size of said dielectric material powder (DG1) included in the first dielectric material green sheet is in a range from 1.1 to 1.5.

13. The process for preparing the multilayer ceramic capacitor according to claim 11, wherein a ratio MG2/MG1 of the amount of the glass powder (MG2) included in the second dielectric material green sheet to the amount of the glass powder (MG1) included in the first dielectric material green sheet is in a range from 1.01 to 1.5.

14. The process for preparing the multilayer ceramic capacitor according to claim 10, wherein the glass content in said second dielectric material green sheet is less than the glass content in said first dielectric material green sheet.

15. The process for preparing the multilayer ceramic capacitor according to claim 14, wherein the amount of glass component included in said second dielectric material green sheet is in a range from 60 to 95% of the amount of glass component included in said first dielectric material green sheet in weight proportion.

16. The process for preparing the multilayer ceramic capacitor according to claim 10, wherein the mean particle size of the dielectric material powder that constitutes said first dielectric material green sheet and the second dielectric material green sheet is 0.5 μm or smaller.

17. The process for preparing the multilayer ceramic capacitor according to claim 10,

wherein the thickness of said first dielectric material green sheet is 8 μm or smaller and 100 or more first dielectric material green sheets are stacked one on another.